Tanzanian water wells

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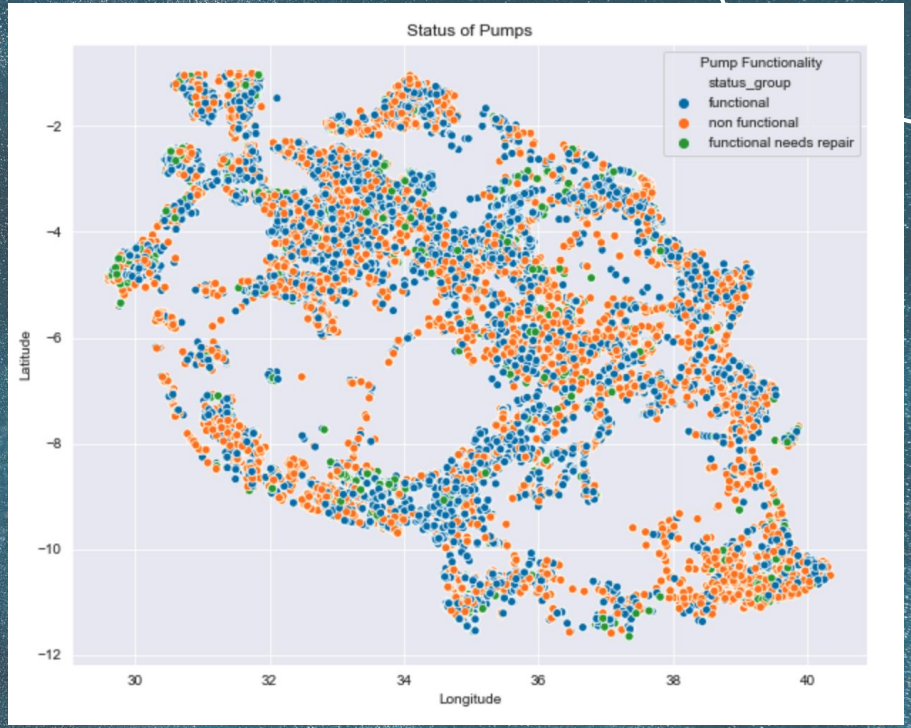
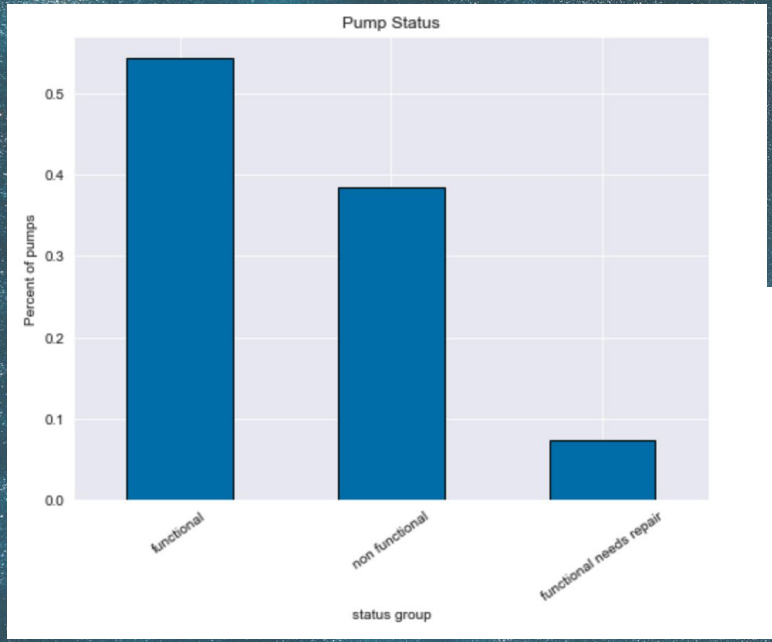
Tanzanian Water Wells

The data was provided by Pump It Up: Data Mining the Water Table competition on Driven Data.

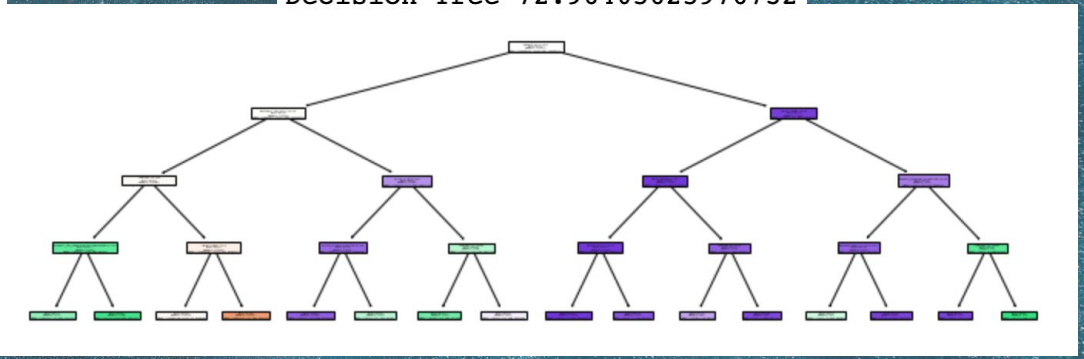
- Using data from Taarifa and the Tanzanian Ministry of Water.
- Tanzania has one of the fastest growing economies in Africa.
- Lack of access to clean water forces many people to rely on contaminated supplies.



Model results

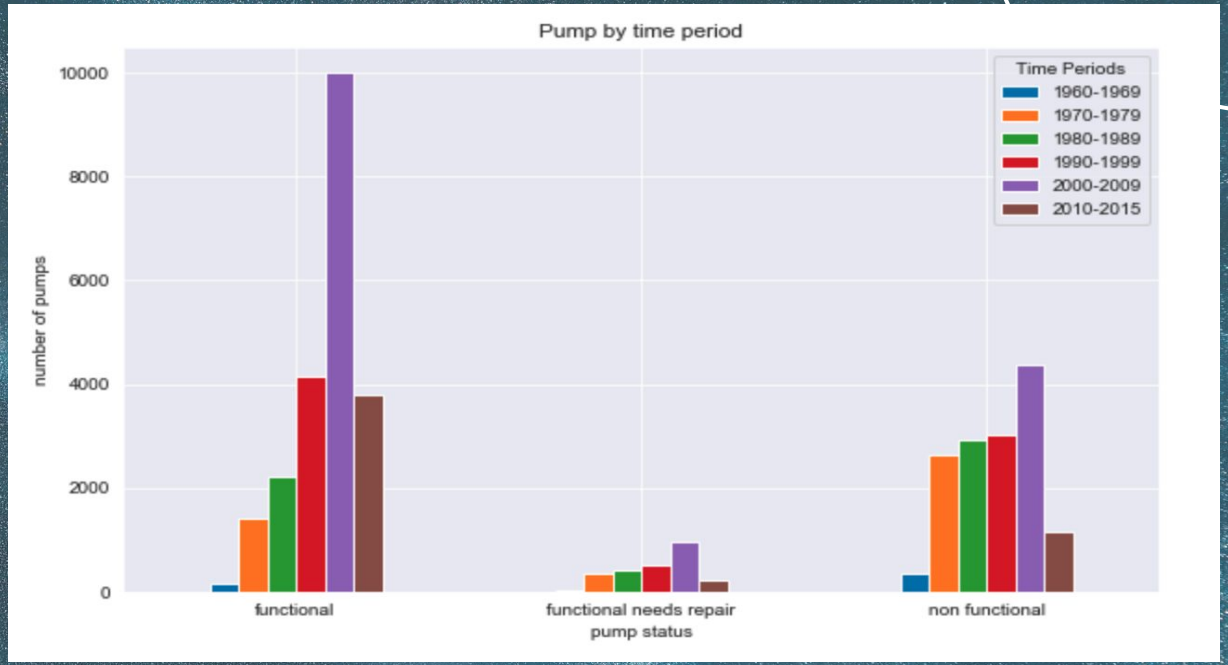


Decision Tree 72.96405625976732



Time Periods

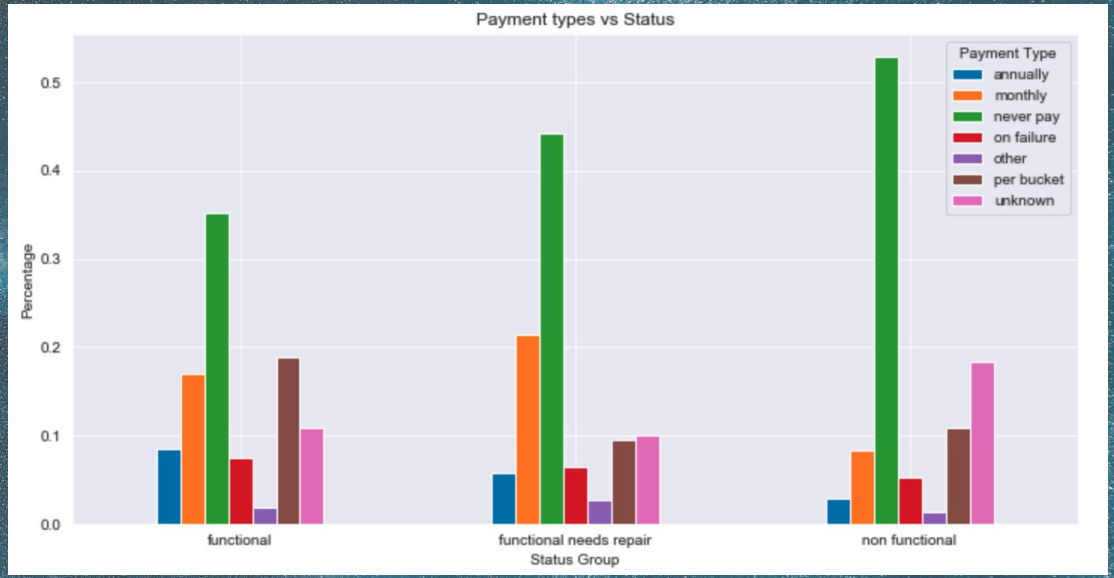
- The older the water pump is the more likely it will be non-functional vs. newer pumps that are mostly functional.



Payment types

Looking at the chart we can see that most of the pumps that are non-functional are ones that don't require people to pay for water.

The pumps that require some sort of payment are more functional probably for the upkeep of the water pump



Conclusion

Recommendations:

- I would like to see more data on the life span of functional pumps before they would need to repaired
- Also i don't think it's necessary to include all of the dry water pumps since all dry water pumps are non-functional anyways and no need to repair them.

Future Work

- Continue to improve the models with hyperparameter tuning
- Deal with more class imbalances using SMOTE
- Find which extraction types would take longer to repair

Thank You

Special Thanks to:

Tanzanian Ministry of Water
Taarifa
Driven Data

For providing the data sets

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